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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,824	04/24/2007	Hyo Jin Lee	2658-0386PUS1	2383
2292 7590 04/20/2009 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER				
MANCUSO, HUEDUNG XUAN CAO				
ART UNIT		PAPER NUMBER		
2821				
NOTIFICATION DATE		DELIVERY MODE		
04/20/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/589,824

Applicant(s)

LEE, HY0 JIN

Examiner

HUEDUNG Cao MANCUSO

Art Unit

2821

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-22 is/are allowed.
- 6) ☒ Claim(s) 1-9 and 14-18 is/are rejected.
- 7) ☒ Claim(s) 10-13, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/17/06 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S508)
- Paper No(s)/Mail Date 8/17/06
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: on page 7, lines 11-12, the phrase "a high frequency signal source 43" should be changed to "a high frequency signal source 33". Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2, 5-8 are rejected under 35 U.S.C. 102(c) as being anticipated by Fossett (US 7495619 B2).

As to claim 1, Fossett (figures 4-11) teaches an mobile terminal, comprising: a terminal body (see figure 11); an antenna (210,220) connected to a high frequency signal source (see figure 4, and col. 8, lines 1-15) within the terminal body; and a grounding means (240) connected to a ground voltage source within the terminal body.

As to claim 2, wherein the antenna is a monopole antenna (see figure 4).

As to claim 5, wherein the grounding means is embedded within the terminal body (see figure 4, and fig. 11).

As to claim 6, wherein an electro magnetic interference EMI intercepting metal shield is formed in a space other than a space where the grounding means is formed in the inside of the terminal body (see col. 7, lines 4-13).

As to claim 7, wherein the antenna includes: an antenna coil of which the linear length is 1/4 of the wavelength of the electric wave and which receives a high frequency signal power from the high frequency signal source (see col. 5, lines 46-57).

As to claim 8, wherein the antenna includes: a first core; and an antenna coil wound on the first core to receive a high frequency signal power from the high frequency signal source (see fig. 3).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-4, 9, 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fossett (US 7495619 B2).

As to claims 3, 4, 9, 14, 15, 16, 17, 18, while Fossett does not specify the exact shape, size, location of the grounding means is exposed to the outside of the terminal body; wherein the grounding means is exposed to the outside of the terminal body; wherein the grounding means includes: at least one grounding coil connected to the ground voltage source; a grounding means exposed to the outside of the mobile terminal; wherein the grounding means has a length of 1/4 of a wavelength of an electric wave; a dielectric substance formed between the grounding means and the mobile terminal, the exact shape, size, location is something that one of ordinary skill in the art would know how to best design for the optimum operation of the device when taking into consideration the size available for the device and the preferred cost in making the device

Allowable Subject Matter

7. Claims 10-13, 19-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the Prior art fails to specifically teach that the grounding means includes a second core through which a conductive inner core penetrates and of which the surface is insulated from the

conductive inner core, wherein the conductive inner core is electrically connected to the high frequency signal source and the antenna coil; and a grounding coil wound on the second core and connected to the ground voltage source; an antenna coil to receive a high frequency signal]5 power from the high frequency signal source; a conductive inner core electrically connected to the high frequency signal source and the antenna coil; a core through which a conductive inner core penetrates, of which the surface is insulated from the conductive inner core, and which has a conductive surface electrically connected to the ground voltage source; and at least one grounding coil connected to the ground voltage source through the conductive surface of the core; a first core on which the antenna coil is wound; a conductive inner core electrically connected to one end of the antenna coil to receive the high frequency signal; and a second core through which the conductive inner core 10 penetrates and of which the surface is insulated from the conductive inner core, and wherein the at least one grounding coil is wound on the surface of the second core; a conductive inner core electrically connected to one end of the antenna coil to receive the high frequency 20 signal; and a core through which the conductive inner core penetrates, which remains to be insulated from the conductive inner core and which has a conductive surface connected to the ground voltage source, wherein one end of the at least one grounding coil is connected to the surface of the core.

8. Claims 21-22 are allowed.

The following is an examiner's statement of reasons for allowance: the prior art fails to specifically teach that a conductive inner core electrically connected to one end of the antenna coil to supply a high frequency signal to the antenna coil; a second core through which the

conductive inner core penetrates and of which the surface is insulated from the conductive inner core; and at least one grounding coil wound on the second core to receive a ground voltage; conductive inner core electrically connected to one end of the antenna coil to supply a high frequency signal to the antenna coil; a core through which the conductive inner core penetrates; a grounding surface formed on the surface of the core to receive a ground voltage; at least one grounding coil connected to the grounding surface, and wherein one end of the at least one grounding coil is connected to the grounding surface.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUEDUNG Cao MANCUSO whose telephone number is (571)272-1939. The examiner can normally be reached on 6:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Owens can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Huedung Cao Mancuso/
Examiner, Art Unit 2821